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AUTHOR Hoachlander, E. Gareth
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ABSTRACT

This paper provides guidelines in a question-and-answer format for developing systems of performance standards and accountability for vocational education. The seven questions answered in the guide are the following: What are performance measures and standards? What types of performance measures and standards should be developed? How many measures and standards should be developed? Why is it necessary to measure changes over time? What constitutes good performance measures and standards? What kinds of statistical controls need to be incorporated into a system of performance standards and measures? and How might one proceed with developing a system of standards and measures? Each question in answered in an outline format of several statements. (KC)

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National Center for Research in Vocational Education

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Working Papers

SYSTEMS OF PERFORMANCE STANDARDS AND ACCOUNTABILITY FOR VOCATIONAL EDUCATION

GUIDELINES FOR DEVELOPMENT

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E. Gareth Hoachlander

University of California at Berkeley

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E. Gareth Hoachlander
National Center for Research in Vocational Education
University of California, Berkeley

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Systems of Performance Standards and Accountability for Vocational Education

Guidelines for Development

1. What are performance measures and standards?

a. *Performance measure*—the variable used to measure different levels of performance—e.g., time to complete an overhaul of front disc brakes, number of students successfully completing an automotive program, number of students completing a planned sequence of vocational and academic courses)

b. *Performance standard*—the level of performance considered acceptable for (1) advancing to the next level of education or training, (2) successfully entering a job related to training, (3) continuing to offer a course or program, or (4) establishing acceptable program or institutional performance—e.g., correctly completing an overhaul of front disc brakes within 90 minutes, 75 percent of students mastering correct brake overhaul within one semester of instruction, 70 percent of students choosing to enter an automotive program completing the program, 70 percent of students opting for vocational education completing a planned sequence of vocational and academic courses.

c. Performance measures and standards may be defined for students, courses, programs, institutions, districts, regions, or states.

d. Standards may be established to measure performance at a single point in time (benchmark criteria) and to measure performance *over* time (value added or longitudinal measures); value added or longitudinal standards require measuring performance at different points in time to determine the amount of learning that has occurred during the period—e.g., reduction in time needed to correctly repair front disc brakes, change in the percentage of students mastering correct brake overhaul, change in the percentage of students completing automotive programs, change in the percentage of students completing a planned sequence of vocational and academic courses.

2. What types of performance measures and standards should be developed?

a. *Learning* measures and standards—measures and standards for the acquisition of academic and vocational skills. Some examples of possible variables include:

1. Student achievement on standardized tests
2. Student achievement on competency-based tests
3. Course completion rates
4. Program completion rates
5. High school graduation rates
6. Rates of completing degrees or certificates
7. Patterns of course taking—e.g., percentage of students pursuing a planned sequence of vocational and academic courses as evidenced by student transcripts

b. *Labor market* measures and standards—measures and standards for performance in the labor market after leaving vocational education. Some examples of possible variables include:

1. Time needed to find and secure employment
2. Placement rates
   a. In a job related to training
   b. In any job
   c. In further education or training
   d. In the military or other service (e.g., the Peace Corps)
3. Entry level wage
4. Quarterly earnings
5. Time employed in first job
6. Rate at which quarterly earning increase
7. Employer and employee satisfaction

c. *Accessibility* measures and standards—measures and standards for access to courses and programs, completion of programs, and entry into the labor market for students with special needs relative to other students. Some examples of possible variables include:

1. Ratio of percentage of students with special needs *enrolled* in selected vocational education programs to the percentage of students with special needs in the school population at large
2. Ratio of percentage of students with special needs *completing* selected vocational education programs to the percentage of students with special needs in the school population at large
3. Ratio of percentage of students with special needs *entering jobs* related to training to the percentage of students without special needs entering jobs related to training

3. How many measures and standards should be developed?

a. Vocational education has multiple objectives, and multiple standards should be used to assess performance; developing a single standard or too few standards will encourage educators to focus only on the type performance being measured to the exclusion of other objectives.

b. As a starting point, a minimum of two standards should be developed for each of the three general types of performance—learning, labor market, and accessibility.

c. At least one standard in each of the three areas should measure change over time.

4. Why is it necessary to measure changes over time?

a. In the absence of measures of value added or changes over time, educators may be encouraged to admit only the best students to courses and programs; this temptation becomes greater the more heterogeneous the eligible participants are in terms of ability and previous preparation.

b. Measures of change over time provide evidence of the degree of improvement being achieved by different programs and institutions; they ensure that initially low-performing programs or institutions have the opportunity to demonstrate progress over time, instead of holding them to an absolute standard that may not be attainable in a short period.

5. What constitutes good performance measures and standards?

a. Measures and standards should seek to satisfy the following criteria:

1. Clearly and precisely defined.
2. Quantifiable
3. Easy and inexpensive to measure
4. Timely
5. Consistent across programs and institutions, as well as over time

b. Measures and standards should seek first to use existing data when the data are determined to meet the criteria above. Sources to consider, in addition to data typically maintained by most states, include:
   1. Student transcripts
   2. Unemployment insurance data

6. What kinds of statistical controls need to be incorporated into a system of performance standards and measures?

a. It is important that assessments of performance compare like against like; courses, programs, and institutions vary considerably in the abilities of students enrolled, availability of resources, and other factors outside the direct control of educators.
b. Systems should seek to incorporate statistical techniques that, at a minimum, control for differences in performance associated with differences in student ability.
c. Additional variables that may be considered for further statistical controls include resources per student, school size, or other factors educators consider relevant.

7. How might one proceed with developing a system of standards and measures?

a. Standards and measures may be easiest to develop for programs that are already subject to state licensing or certification; states may want to begin with these programs and subsequently take up other vocational education programs.
b. Systems should include an on-going provision for monitoring and reviewing the appropriateness of chosen standards and measures.
c. Defining standards should rely heavily on substantial input from employers; special analysis of knowledge, skills, and abilities may be desirable for certain occupations, especially new occupations or those undergoing rapid technological change.
d. Development should include provisions for strong technical review to ensure that proper statistical controls are in place and used appropriately.